CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 84-12
NPDES NO. CA0037532

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF MILLBRAE
NORTH BAYSIDE SYSTEM UNIT
SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The City of Millbrae, hereinafter called the discharger, submitted a report of waste discharge December 29, 1982 for reissuance of NPDES Permit No. CA0037532. The North Bayside System unit (NBSU)is the joint powers authority responsible for operation of certain transport, treatment, and disposal facilities. The NBSU includes Millbrae, Burlingame, South San Francisco, San Bruno, San Francisco International Airport, and Calgon Corporation.

2. The discharger presently discharges 2.0 million gallons per day (mgd) average flow from its secondary treatment plant which has a dry weather design capacity of 3.0 mgd. This plant treats domestic (and industrial) wastewater from the City of Millbrae. The treated wastewater is discharged into the combined NBSU forcemain and outfall with final disposal into San Francisco Bay , a water of the State and United States, northeast of Point San Bruno through a submerged diffuser about 5300 feet offshore at a depth of 20 feet below mean lower low water. (Latitude 37 deg., 39 min., 55 sec.; Longitude 122 deg., 21 min., 41 sec.)

3. The discharge is presently governed by Waste Discharge Requirements, Order No. 79-19 which allow discharge into San Francisco Bay.

4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for San Francisco Bay and contiguous waters.

5. The beneficial uses of Lower San Francisco Bay and contiguous water bodies are:

   - Water contact and Non-contact water recreation
   - Wildlife Habitat
   - Preservation of Rare and Endangered Species
   - Marine Estuarine Habitat
   - Fish migration and spawning
   - Industrial service supply
   - Shellfish Harvesting
   - Navigation
   - Commercial and Sport Fishing

6. The discharger has submitted an application for a waiver of secondary treatment requirements during periods of wet weather in accordance with Section 301(h) of the 1981 Amendments to the Clean Water Act. Additional information is needed on the magnitude and frequency of excessive wet weather flows, overflows, and bypasses and on the wet weather capacities of the treatment plant, pump stations, and collection system in order to evaluate the discharger's application.

7. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.

8. This Order serves as an NPDES permit, adoption of which is exempt from the provision of Chapter 3 (commencing with Secton 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

9. The discharger and interested agencies and persons have been notified of the Board's intent to reissue, requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant is prohibited.

2. The average dry weather flow shall not exceed 3.0 mgd. Average flow shall be determined over three consecutive months each year.

3. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.

B. Effluent Limitations for Discharge into the Combined Forcemain-Outfall

1. Effluent discharged shall not exceed the following limits:

Constituents	Units	30-day Average	7-day Average	Maximum Daily	Instantaneous Maximum
a. Settleable Matter	ml/l-hr	0.1		-	0.2
b. BOD_5 or	mg/l	30	45	60	-
Carbonaceous BOD_5	mg/l	25	40	50	-
c. Total Suspended Solids	mg/l	30	45	60	-
d. Oil & Grease	mg/l	10		20	-
e. Total Chlorine Residual (1)	mg/l	-	-	-	0.0

(1)Requirement defined as below the limit of detection in standard test methods. Compliance with this limitation may be demonstration at the NBSU Joint dechlorination facility.

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same times during the same period (85 percent removal).

3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples. Samples may be dechlorinated in the laboratory prior to testing to provide a chlorine residual equal to that of the waste as discharged from the NBSU joint dechlorination facility.

5. Representative samples of the effluent shall not exceed the following limits:(1)

Constituent	Unit of Measurement	6 month median	Daily Maximum
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04

Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbons (2)	mg/l	0.002	0.004

(1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6. During the months of May through September the moving median value for the MPN of total coliform in any five (5) consecutive effluent samples shall not exceed 23 coliform organisms per 100 milliliters. Any single sample shall not exceed 240 MPN/100 ml. During the wet weather months of October through April inclusive, effluent shall not exceed a five sample moving median of 240 MPN/100 ml nor a single sample maximum of 2400 MPN/100 ml.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

a. Floating, suspended, or deposited macroscopic particulate matter or foam;

b. Bottom deposits or aquatic growths;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visibile, floating, suspended, or deposited oil or other products of petroleum origin;

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved Sulfide	0.1 mg/l maximum
c.	pH	Variation from natural ambient pH by more than 0.5 pH units.
d.	Un-ionized ammonia	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 79-19. Order No. 79-19 is hereby rescinded.

2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

   Mass Emission Limit in kg/day = Concentration limit in mg/l x 3.79 x Actual Flow in mgd averaged over the time interval to which the limit applies.

3. The discharger shall comply with all sections of this order immediately upon adoption.

4. The discharger shall document compliance with Prohibition A.1 by preparing a Wet Weather Flow Management Plan to be approved by the Board and amended, as necessary, to the satisfaction of the Executive Officer.

5. The discharger shall document compliance with Provision D.4. and with the long term goal of providing secondary treatment for all flows and eliminating all overflows according to the following schedule:

Task	Compliance Date	Date Report Due
a. Submit Weather Flow Management Plan, acceptable to the Executive Officer, for sewer maintenance, repair, and replacement and other facility construction to reduce, control, or eliminate excessive wet weather flows and overflows. Quarterly status reports shall be submitted during development of this plan.	July 1, 1985	June 15, 1984 September 15, 1984 December 15, 1984 March 15, 1985 July 15, 1985 (Final Report)
b. Submit annual progress reports quantifying any sewerage system improvements and their impacts on compliance, wet weather flow quantity, overflow/bypass frequency, and summarizing proposed actions for coming year	July 1 (each year from 1986 until full compliance is achieved)	July 15 (each year)

6. The discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. A time schedule for completion of the initial revision shall be submitted by April 15, 1984. Documentation of operator input and review shall accompany each annual update.

7. The discharger shall review and update by April 15, 1984 annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

8. The discharger is required to effectively implement a pretreatment program under the authority to Section 307(b) and 402(b)(8) of the Clean Water Act. As part of this responsibility, the discharger shall ensure compliance with pretreatment standards promulgated under Section 307(b) and (c) of the Clean Water Act:

   (a) Compliance by existing industrial sources with pretreatment standards shall be within 3 years of the date of promulgation of the standard unless a shorter compliance time is specified.

   (b) Compliance by new sources of industry with promulgated pretreatment standards shall be required upon commencement of discharge.

9. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

10. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977.

11. This Order expires March 21, 1989. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

12. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on March 21, 1984.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions &
Reporting Requirements, April 1977
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

City of Millbrae

North Bayside System Unit

San Mateo County

NPDES NO. CA0037532

ORDER NO. 84-12

CONSISTS OF

PART A, dated January 1978

AND

PART B

PART B

CITY OF MILLBRAE AND NORTH BAYSIDE SYSTEM UNIT

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present, preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

B. EFFLUENT

Station	Description
E-001-D	At any point in the plant after disinfection between the point of discharge into the combined outfall and the point at which all waste from the treatment plant is present.
E-002	At at any point in the combined outfall after dechlorination between the point of discharge into San Francisco Bay and the point at which all waste tributary to that combined outfall is present.

C. RECEIVING WATER

Station	Description
C-1	At any point in San Francisco Bay located over the geometric center of the outfall's discharge ports.
C-2	At a point in San Francisco Bay located midway between C-1 and C-3.
C-3	At a point in San Francisco Bay located in the center of the waste plume.
C-50-SW	At a point in San Francisco Bay, located 50 feet southwesterly, along the outfall line shoreward from Station C-1.
C-50-NW	At a point in San Francisco Bay, located 50 feet northwesterly from Station C-1, normal to the outfall line.
C-50-NE	At a point in San Francisco Bay located 50 feet northeasterly from Station C-1, along the outfall line extended.

C-50-SE	At a point in San Francisco Bay located 50 feet southeasterly from Station C-1, normal to the outfall.
C-300-N thru C-300-NW (8 stations)	At a point in San Francisco Bay located on a 300 foot radius from the geometric center of the outfall diffuser, at equidistant intervals, with Station C-300-SW located shoreward from Station C-1 at the outfall line.
C-R-NW	At a point in San Francisco Bay located approximately 1500 feet northerly from the point of discharge.
C-R-SE	At a point in San Francisco Bay, located approximately 1500 feet southeasterly from the point of discharge.

D. LAND OBSERVATIONS

Station	Description
P-1 thru P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 100 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

Station	Description
OV-1 thru OV-'n'	Bypass or overflows from manholes, pump stations, or collection system.

NOTE: Initial SMP report to include map and description of each known bypass or overflow location, and report on pump station alarms, pumping capacity, upstream storage capacity and bypass location.

Reporting - Shall be submitted monthly and include date, time, and period of each overflow or bypass and measures taken or planned to prevent future occurrences (see Part A Section F.2.).

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 84-12.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Effective Date March 21, 1984

Attachments:
Table I and Legend For Table

TABLE 1

ORDER NO. 84-12 SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001-D			E-002			All C Sta.	All P Sta.				
TYPE OF SAMPLE	C-24	4) G	4) C-24	Cont	G	5/ C-24	Cont	10) G	0				
Flow Rate (mgd)				D			D						
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	2/W		3/W			5/W							
Chlorine Residual & Dosage (mg/l & kg/day)		2H	or	8) Cont	2H	or	8) Cont						
Settleable Matter (ml/l-hr. & cu. m/day)		D			D								
Total Suspended Matter (mg/l & kg/day)	2/W		5/W			5/W							
Oil and Grease (mg/l & kg/day)	2) 2/M	2/ 2/M			2/ 2/M								
Coliform (Total or Fecal) (MPN/100 ml) per req't		3/W			5/W			3/ M					
Fish Tox'y 96-hr. TL_{50} or %Surv'l in undiluted waste			6) M			5/ M							
Total Ammonia (mg/l & kg/day)			9) M			9) M							
Nitrate Nitrogen (mg/l & kg/day)						9) M							
Nitrite Nitrogen (mg/l & kg/day)						9) M							
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)			D			M		M					
pH (units)		D			D			M					
Dissolved Oxygen (mg/l and % Saturation)		D			D			M					
Temperature (°C)		D			D			M					
Apparent Color (color units)													
Secchi Disc (inches)								M					
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)		D			D			M					
Arsenic (mg/l & kg/day)			7) Q										
Cadmium (mg/l & kg/day)			7) Q										
Chromium, Total (mg/l & kg/day)			7) Q										
Copper (mg/l & kg/day)			7) Q										
Cyanide (mg/l & kg/day)			7) Q										
Silver (mg/l & kg/day)			7) Q										
Lead (mg/l & kg/day)			7) Q										

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001			E-002			All C Sta.	All P Sta.	All OV Sta.	
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	O		
Mercury (mg/l & kg/day)			Q [7]								
Nickel (mg/l & kg/day)			Q [7]								
Zinc (mg/l & kg/day)			Q [7]								
Phenolic Compounds (mg/l & kg/day)			Q [7]								
All Applicable Standard Observations (See Part A, Sec. C.5.)		D			D			M	E	E	
Bottom Sediment Analyses and Observations											
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)			Q [7]								
Un-ionized Ammonia as N (mg/l)								M			
Dewatered Sludge									D [11]		
Daily Rainfall									D		

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
Cont = continuous sampling
O = observation

TYPES OF STATIONS

A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
OV = overflows and bypasses

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

1/ During any day when bypassing occurs from any treatment unit(s) in the plant or to the emergency outfall, the monitoring program for the effluent and any nearshore discharge shall include the following in addition to the above schedule for sampling, measurement and analyses:

a. Composite sample for BOD and Total Suspended Solids

b. Grab samples for Coliform, Settleable Matter, and Oil and Grease.

c. Continuous monitoring of flow

d. Continuous or every two hour monitoring of chlorine residual

2/ Oil and Grease sampling shall consist of 3 grab samples taken at 8 hour intervals during the sampling day with each grab being collected in a glass container and analyzed separately. Results for stations A-001 and E-001 shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample. Results for station E-002 shall be expressed as a simple average of the three values. If the plant is not staffed 24 hours per day or if the discharge does not occur continuously, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed or during the period that discharge is made. The 3 grab samples may be combined and analyzed as a composite sample after submittal of data acceptable to the Executive Officer that the two techniques are equivalent.

In the event that sampling for oil and grease once every two weeks or less frequently shows an apparent violation of the waste discharge permit 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly so that a true 30-day average can be computed and compliance can be determined.

3/ 5 samples per station each day at stations C-1,2,3, CR-NW & CR-SE only.

4/ Grab samples shall be taken on day(s) of composite sampling

5/ Sample date for bioassays and for one of all other specified parameters at E-002 shall coincide with date and times of Calgon Corp E-001 composite sample.

6/ If a continuous bioassay is to be run, sample may be taken from E-001 prior to disinfection instead of dechlorination E-001 effluent.

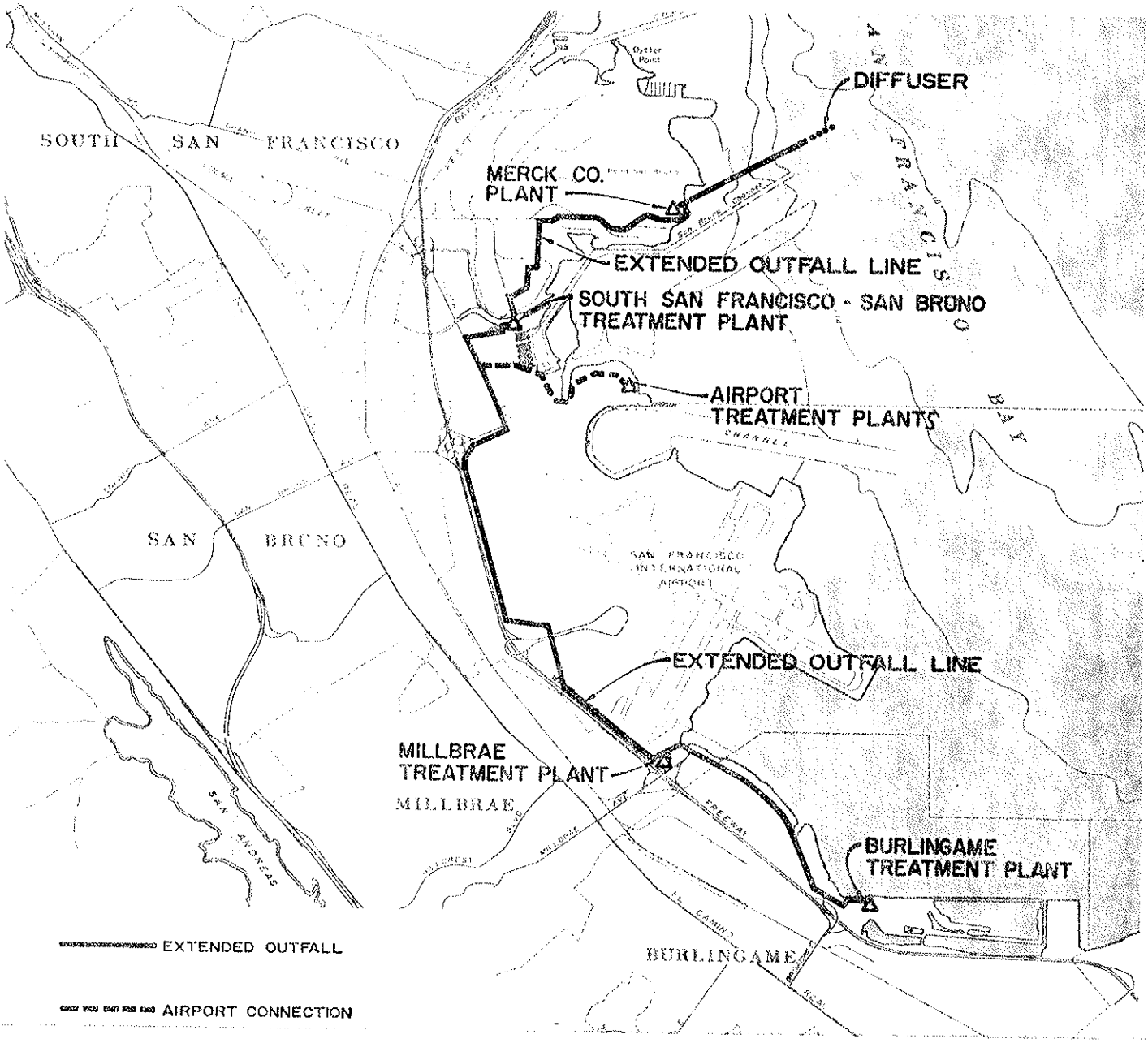
7/ If any samole is in violation of limits, sampling shall be increased for that parameter to weekly until compliance is demonstrated in two successive samples.

8/ Data shall be reported using Form A (attached) or equivalent. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

9/ These parameters shall be tested for on the same composite sample used for the bioassay.

10/ Monthly sampling dates and approximate times shall coincide with receiving water monitoring conducted by the City of San Mateo and the South Bayside System Authority.

11/ Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of diposal.



LOCATION MAP
North Bayside System Unit Dischargers San Mateo County